

WHAT IS CLAIMED IS:

1. A light emitting module comprising:

a housing comprising a mount member and a lens holding member;

5 a semiconductor light emitting device mounted on the mount member;

10 a lens held by the lens holding member, the lens having a first surface which reflects part of light from the semiconductor light emitting device and transmits part of the light, and a second surface which outputs the light transmitted by the first surface; and

15 a semiconductor light receiving device mounted on the mount member and arranged to receive the reflected light from the first surface,

wherein the mount member has a support surface provided along a predetermined surface intersecting with a predetermined axis, a hole extending in a direction of the predetermined axis, and a lead terminal penetrating the hole, and

20 wherein the lens holding member is placed on the support surface of the mount member so as to cover the semiconductor light emitting device and the semiconductor light receiving device.

25 2. The light emitting module according to Claim 1, wherein said semiconductor light emitting device comprises a surface emitting type semiconductor laser,

and wherein said semiconductor light emitting device has a light emitting surface provided along another surface intersecting with the predetermined axis.

5 3. The light emitting module according to Claim 1, wherein the semiconductor light receiving device has a light receiving surface for receiving said reflected light, and wherein the light receiving surface is provided along another surface intersecting with the predetermined axis.

10 4. The light emitting module according to Claim 1, wherein the mount member has a component mounting surface provided along a predetermined surface intersecting with the predetermined axis, and

15 wherein a distance between a light receiving surface of the semiconductor light receiving device and the component mounting surface is larger than a distance between a light emitting surface of the semiconductor light emitting device and the component mounting surface.

20 5. The light emitting module according to Claim 1, wherein the lens has a reflecting film capable of reflecting part of the light from the semiconductor light emitting device and transmitting part of the light, on the first surface.

25 6. The light emitting module according to Claim 5, wherein the reflecting film demonstrates a

reflectance of not less than 5%.

7. The light emitting module according to Claim 6, wherein the reflecting film further demonstrates the reflectance of not more than 30%.

5 8. The light emitting module according to Claim 1, wherein the lens is a ball lens.

10 9. The light emitting module according to Claim 1, wherein the semiconductor light emitting device has a luminescence intensity profile having a peak intensity at a predetermined angle of inclination from the optical axis of the semiconductor light emitting device.

15 10. The light emitting module according to Claim 1, wherein the semiconductor light receiving device comprises a semiconductor chip with a hole extending in the direction of the predetermined axis, and a light receiving portion provided in the semiconductor chip and along a closed curve surrounding the predetermined axis, and

20 wherein the semiconductor light emitting device is housed in the hole of the semiconductor light receiving device.

25 11. The light emitting module according to Claim 1, further comprising an optical fiber optically coupled to the second surface of the lens and held by the housing.

12. The light emitting module according to Claim 1, further comprising an optical fiber optically directly coupled to the second surface of the lens and held by the housing,

5 wherein the semiconductor light emitting device comprises a surface emitting type semiconductor laser,

wherein the first surface and the second surface of the lens are convex surfaces,

10 wherein a light emitting surface of the semiconductor light emitting device is optically directly coupled to the first surface of the lens, and

wherein the lens has a reflecting film capable of reflecting part of the light from the semiconductor light emitting device and transmitting part of the 15 light, on the first surface.

13. The light emitting module according to Claim 12, wherein the light emitting surface of the semiconductor light emitting device is provided along another surface intersecting with the predetermined 20 axis.

14. The light emitting module according to Claim 12, wherein the semiconductor light receiving device has a light receiving surface for receiving said reflected light, and wherein the light receiving 25 surface is provided along another surface intersecting with the predetermined axis.

15. The light emitting module according to Claim
12, wherein the mount member has a component mounting
surface provided along a predetermined surface
intersecting with the predetermined axis, and

5 wherein a distance between a light receiving
surface of the semiconductor light receiving device and
the component mounting surface is larger than a
distance between the light emitting surface of the
semiconductor light emitting device and the component
mounting surface.

10 16. The light emitting module according to Claim
12, wherein the reflecting film demonstrates a
reflectance of not less than 5%.

15 17. The light emitting module according to Claim
16, wherein the reflecting film further demonstrates
the reflectance of not more than 30%.

18. The light emitting module according to Claim
12, wherein the lens is a ball lens.

20 19. The light emitting module according to Claim
12, wherein the semiconductor light emitting device has
a luminescence intensity profile having a peak
intensity at a predetermined angle of inclination from
the optical axis of the semiconductor light emitting
device.

25 20. The light emitting module according to Claim
12, wherein the semiconductor light receiving device

comprises a semiconductor chip with a hole extending in
the direction of the predetermined axis, and a light
receiving portion provided in the semiconductor chip
and along a closed curve surrounding the predetermined
axis, and

5 wherein the semiconductor light emitting device
is housed in the hole of the semiconductor light
receiving device.